

# PATENT ABSTRACTS OF JAPAN

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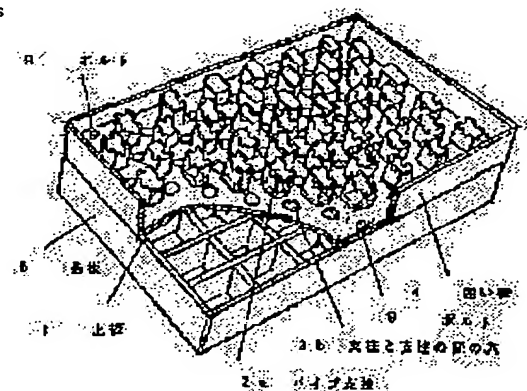
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(22)Date of filing : 27.09.1996 (72)Inventor : AZAMA HIRONORI

## (54) ROOT PROTECTOR FOR LAWN GRASS AND MANUFACTURE THEREFOR

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To perform greening by removing the asphalt and concrete of an open-air parking lot and a sidewalk which are the causes of the heat island phenomenon of a city part and planting lawn grass, to protect the roots of the lawn grass from the wheels of an automobile and feet and to make rain water infiltrate the earth.

**SOLUTION:** The optional number of holes 3a are arranged on an upper plate 1, pipe supports 2a are welded and stood on it and the holes 3b for the infiltration of the water are formed among the pipe supports. A base plate 5 for supporting the upper plate 1 from a lower part and preventing the deformation of the upper plate 1 is fitted on the lower part of the upper plate 1.



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CLAIMS

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[Claim(s)]

[Claim 1] Make a hole (3a) in the location of the arbitration of people of a metal superior lamella (1), and on the hole (3a), only the number of holes (3a) welds a pipe stanchion (2a), and prepare it. Also in between, only the number of arbitration prepares a hole (3b) between PAIBU stanchions (2a). On all sides [ of a superior lamella (1) / periphery section ], the structure of a substrate (5) which a shroud (4) establishes in height about the same as a pipe stanchion (2a) towards the upper part of forming the substrate (5) which supports a superior lamella (1) from the bottom in the lower part of a superior lamella (1) is constructed in the shape of a grid, and is made from a strong ingredient. The quality of the material of a superior lamella (1) may be chosen from PURASUTCHIKKU, hard rubber, a ceramic, or cast iron, and shaping is really sufficient as it. The quality of the material of a substrate (5) is [Claim 2] as which shaping is really sufficient by plastics, hard rubber, the ceramic, cement, and the object chosen from cast iron. The root protector of the grass according to claim 1 which replaced the pipe stanchion (2a) of a superior lamella (1) with the stanchion (2b) of the round bar which is not hollow.

[Claim 3] The root protector of grass which formed the metal mesh plate (8) on the round bar stanchion (2b) according to claim 2.

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DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] It is related with tree planting by the unauthorized parking place and the grass of a foot walk.

[0002]

[Description of the Prior Art] Conventionally, grass was planted in the unauthorized parking place or the foot walk, and there were no product and approach of protecting it from the tire of an automobile. At ordinary homes, the grating was placed side by side on soil, soil was put on it, and grass was grown. However, vast unauthorized parking places, such as mass retailers, such as a supermarket, and a pachinko parlor, a hospital, apply where into asphalt or cement, and are hardened, and there was no product which plants trees in an unauthorized parking place.

[0003]

[Problem(s) to be Solved by the Invention] It is said to be the cause that the cause of the heat island phenomenon of the city section which has been a problem globally today applied and hardened the open space, the road, the foot walk, the unauthorized parking place, etc. with asphalt or concrete. Grass does not spring up, either, but without permeating the earth, storm sewage flows an asphalt top, and no duty carries out it to the sea, but it disappears and goes.

[0004] In order to plant grass in an unauthorized parking place or a foot walk, to make storm sewage permeate the earth and to abolish a heat island phenomenon, it is necessary to plant trees in an unauthorized parking place or a foot walk with grass, and to protect the grass from the tire and \*\*\*\* of an automobile. This invention prepares the stanchion of only the number of arbitration on a strong plate, receives a load into a tire at the tip of many stanchions, and aims at offering the root protector of the grass which plants grass in between between stanchions, and its manufacturing method.

[0005]

[Means for Solving the Problem] As a means to solve the above-mentioned technical problem, in the protector of the root of the grass of this invention, it fixes by welding as required for the top face of a metal plate in a stanchion, and in response to the load which prepares the hole from which water escapes in between between stanchions as required, and cuts it to a superior lamella 1 further, deformation of a superior lamella 1 is prevented with the lower substrate 5. Soil is put into a perimeter the inside of pipe stanchion 2a, and grass is planted.

[0006] Only the number of arbitration opens hole 3a in people of the strong metal superior lamella 1, on it, only the number of hole 3a welds metal pipe stanchion 2a, it is prepared, and only the number of arbitration prepares hole 3b in between between pipe stanchion 2a, and on all sides [ of the periphery section of a superior lamella 1 ], the metal shroud 4 is turned up, and it welds and prepares by \*\*\*\*\* about the same as pipe stanchion 2a. The substrate 5 which supports a superior lamella 1 from the bottom is formed in the lower part of a superior lamella 1, and the structure of a substrate 5 is made from a strong ingredient in the shape of a grid.

[0007]

[Embodiment of the Invention] the gestalt of implementation of invention -- an example -- a basis -- it explains with reference to a \*\*\*\* drawing. A hole is made in all the parts where the ingredient of a superior lamella 1 is welded to pipe stanchion 2a on the superior lamella 1 in a 6mm griddle in drawing 1 . A hole is made also in all the parts that come in between between pipe stanchion 2a and pipe stanchion 2a. The array approach of the pipe stanchion 2 as staggered arrangement Spacing of pipe stanchion 2a and pipe stanchion 2a was made into 70mm which is extent into which the tire of a light car does not fit, made 50mm the diameter of hole 3b between pipe stanchion 2a and pipe stanchion 2a, and prepared the bolthole in the four corners and center section of the superior lamella 1.

[0008] The shroud of the periphery section neighborhood of a superior lamella 1 fixed the 6mm plate by welding, and CHUBU ENGINEERING CORPORATION made T character steel reverse, and put in the 6mm plate in between in parallel at angle-type steel, the edge was constructed in the shape of a grid, and the structure of a substrate 5 welded it, and prepared the screw \*\*\*\* screw hole in the upside four corners and upside center of the substrate for the bolt.

[0009] In the example shown in drawing 2 , pipe stanchion 2a prepared in the superior lamella 1 of claim 1 was used as the stanchion of 20mm reinforcement, and it welded and prepared in staggered arrangement at intervals of 50mm by making 20mm reinforcement into height of 100mm.

[0010] In the example shown in drawing 3 , the mesh plate with a grid 50x100 rib width of face of 15mm was made from the 6mm steel plate, the with a width-of-face depth [ 2mm depth of 5mm ] slot was established in the top face of a grid rib, the bolthole was prepared in four corners and a center section, the nut was prepared in the four corners of a shroud, and the stanchion of a center section, and the superior lamella and the mesh plate were fixed with the bolt.

[0011]

[Effect of the Invention] Since this invention is constituted as explained above, effectiveness which is indicated below is produced.

[0012] If trees is planted in an unauthorized parking place or a foot walk by grass using this invention, storm sewage will permeate the earth and will cancel a heat island phenomenon according to a life operation of grass.

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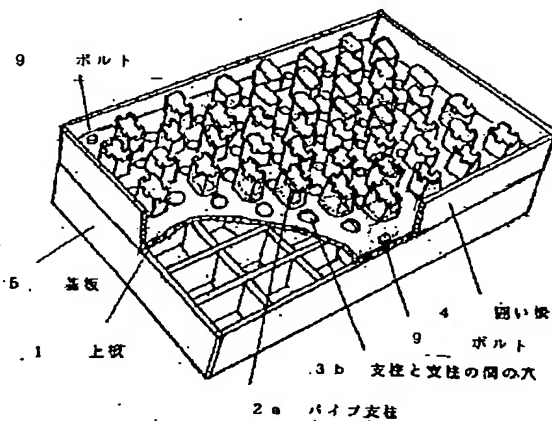
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(54) 【発明の名称】 芝草の根保護器とその製造法

(57) 【要約】

【課題】 都市部のヒートアイランド現象の原因になっている青空駐車場や歩道のアスファルトやコンクリートを取り除いて、芝草を植えて緑化する、そして芝草の根を自動車のタイヤや人足から保護して、雨水も大地に浸透させる。

【解決手段】 上板 1 に任意の数の穴 3 a を設けて、その上にパイプ支柱 2 a を溶接して設ける、パイプ支柱の間に間に水の浸透用の穴 3 b を設ける、上板 1 の下部には上板 1 を下から支えて、上板 1 の変形を防止する基板 5 を設ける。



**【特許請求の範囲】**

【請求項1】 金属製の上板（1）の方々の任意の場所に穴（3a）を開けて、その穴（3a）の上にパイプ支柱（2a）を穴（3a）の数だけ溶接して設ける、パイプ支柱（2a）の間に間にも穴（3b）を任意の数だけ設ける、上板（1）の外周部四辺には囲い板（4）が上方に向けてパイプ支柱（2a）と同じくらいの高さで設ける、上板（1）の下部には上板（1）を下から支える基板（5）を設ける、基板（5）の構造は丈夫な材料で格子状に組んで作る。上板（1）の材質は、プラスチック又は、硬質ゴム又は、セラミック又は、鉄のなかから選ばれるもので一体成形でもよい。基板（5）の材質は、プラスチック、硬質ゴム、セラミック、セメント、鉄のなかから選ばれる物で一体成形でもよい。

【請求項2】 上板（1）のパイプ支柱（2a）を中空でない丸棒の支柱（2b）に替えた請求項1に記載の芝草の根保護器。

【請求項3】 請求項2記載の丸棒支柱（2b）の上に金属製のメッシュ板（8）を設けた、芝草の根保護器。

**【発明の詳細な説明】****【0001】**

【発明の属する技術分野】 青空駐車場や、歩道の芝草による緑化に関する。

**【0002】**

【従来の技術】 従来、青空駐車場や歩道に芝草を植えて、それを自動車のタイヤから守る製品や方法はなかった。一般家庭ではグレーチングを土の上に並べて置いてその上に土を被せて芝草をはやしていた。しかし、スーパー等の量販店やパチンコ屋、医院等の広大な青空駐車場はどこもアスファルトやセメントで塗り固めてあり、青空駐車場を緑化する製品はなかった。

**【0003】**

【発明が解決しようとする課題】 今日、世界的に問題になっている都市部のヒートアイランド現象の原因は、広場や道路、歩道、青空駐車場等をアスファルトやコンクリートで塗り固めたのが原因だと言われている。草も生えず、雨水は大地に浸透することなくアスファルトの上を流れ、海へとなんの役目もせず消えて行く。

【0004】 青空駐車場や歩道に芝草を植えて雨水を大地に浸透させてヒートアイランド現象をなくするには、青空駐車場や歩道を芝草で緑化し、その芝草を自動車のタイヤや人足から保護する必要がある。本発明は丈夫な板上に任意の数だけの支柱を設けて、多数の支柱の先端でタイヤの加重を受け、支柱と支柱の間に間に芝草を植えつける芝草の根保護器、及びその製造法を提供することを目的としている。

**【0005】**

【課題を解決するための手段】 上記の課題を解決する手段として、本発明の芝草の根の保護器においては、金属板の上面に支柱を必要だけ溶接で固着して、支柱と支

柱の間に間に水の抜ける穴を必要だけ設けて、さらに、上板1にかかる加重を下部の基板5で受けて上板1の変形を防止する。パイプ支柱2aの中と周囲に土を入れて芝草を植える。

【0006】 金属製の丈夫な上板1の方々に任意の数だけ穴3aを開けて、その上に金属製のパイプ支柱2aを穴3aの数だけ溶接して設け、パイプ支柱2aの間に間に穴3bを任意の数だけ設け、上板1の外周部の四辺には金属製の囲い板4を上方に向けてパイプ支柱2aと同じくらいのたかさで溶着して設ける。上板1の下部には上板1を下から支える基板5を設け、基板5の構造は丈夫な材料で格子状に作る。

**【0007】**

【発明の実施の形態】 発明の実施の形態を実施例にもとずき図面を参照して説明する。図1に於て、上板1の材料を6ミリの鉄板での上板1の上のパイプ支柱2aが溶接される箇所全部に穴を開け、パイプ支柱2aとパイプ支柱2aの間に間になる箇所全部にも穴を開け、パイプ支柱2の配列方法は千鳥配列として、パイプ支柱2aとパイプ支柱2aの間隔は軽自動車のタイヤがはまり込まない程度の70ミリにし、パイプ支柱2aとパイプ支柱2aの間の穴3bの直径を50ミリとし、上板1の四隅と中央部にボルト穴を設けた。

【0008】 上板1の外周部四辺の囲い板は6ミリ板を溶接で固着し、基板5の構造は端部はアングル鋼で中部はT字鋼を逆にして並行して6ミリ板を間に入れて格子状に組んで溶接し、その基板の上部の四隅と中央にボルトをネジ込むネジ穴を設けた。

【0009】 図2に示される実施例では、請求項1の上板1に設けたパイプ支柱2aを20ミリ鉄筋の支柱にし、20ミリ鉄筋を高さ100ミリとして、50ミリ間隔で千鳥配列に溶接して設けた。

【0010】 図3に示される実施例では、6ミリ鋼板で升目50×100リブ幅15ミリのメッシュ板を作り、升目のリブの上面に幅5ミリ深さ2ミリの溝を設けて、四隅と中央部にボルト穴を設け、囲い板の四隅と中央部の支柱にナットを設けて上板とメッシュ板をボルトで固着した。

**【0011】**

【発明の効果】 本発明は以上説明したように構成されているので、以下に記載されるような効果を生み出す。

【0012】 本発明を使って青空駐車場や歩道を芝草によって緑化すると雨水が大地に浸透し、芝草の生命作用によってヒートアイランド現象を解消する。

**【図面の簡単な説明】**

【図1】 パイプ支柱を用いた芝草の根保護器の一部切開の斜視図である。

【図2】 基板5の斜視図である。

【図3】 パイプ支柱2aを中空でない丸棒の支柱にした、実施例2の芝草の根保護器の斜視図である。

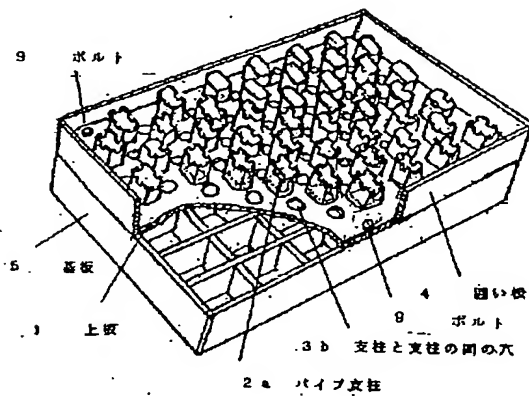
【図4】丸棒支柱の上にメッシュ板を設けた実施例3を示す芝草の根保護器の斜視図。

【符号の説明】

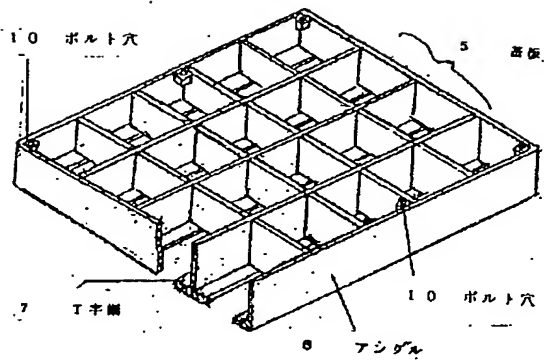
- 1 上板
- 2 a パイプ支柱
- 2 b 丸棒支柱
- 3 a パイプ支柱の穴
- 3 b 支柱と支柱の間の穴

- 4 囲い板
- 5 基板
- 6 アングル
- 7 T字鋼
- 8 メッシュ板
- 9 ボルト
- 10 ボルト穴

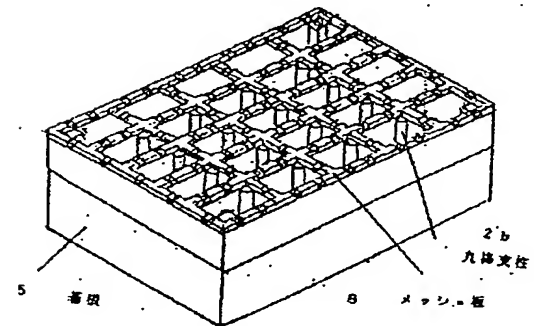
【図1】



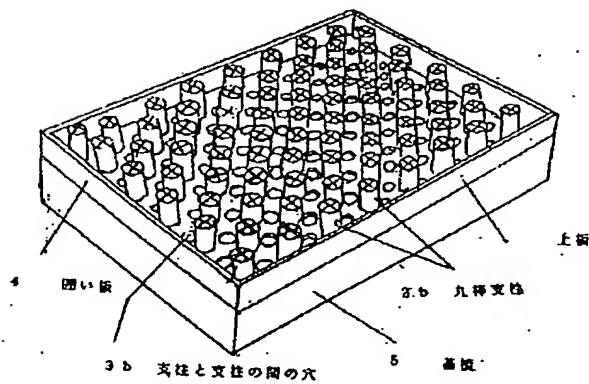
【図2】



【図4】



【図3】



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